Notice of Allowability	Application No.	Applicant(s)	
	10/002,574	BRANSON ET AL.	
	Examiner	Art Unit	
	LEAH S. LOVELL	2885	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *the notice of appeal filed 21 October 2008*.

2. ☒ The allowed claim(s) is/are *1-20*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date *20090122* .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

DETAILED ACTION

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Philip Lyren (US Reg. 40,709) on 22 January 2009.

The application has been amended as follows:

- Regarding claim 1, please amend the claims as follows:

An illumination system for illuminating a scan region on an object, comprising:

a hollow reflector having an interior reflective surface and an exit aperture formed in a body of the hollow reflector;

a light source positioned within said hollow reflector ~~and moving along a displacement path to illuminate a scan region of an object that is positioned on a platen~~, said light source producing a plurality of light rays, some of the light rays produced by said light source being reflected by the interior reflective surface of said hollow reflector before passing through the exit aperture;

a first reflector joined to disposed on a first side of the exit aperture of said hollow reflector; and

a second reflector joined to disposed on a second side of the exit aperture of said hollow reflector, said first and second reflectors being positioned in non-parallel, spaced-apart relation to one another, said first and second reflectors at least partially collimating light passing through the exit aperture of said hollow reflector to form a collimated beam: wherein the hollow reflector is formed to comprise both the interior reflective surface and the first and second reflectors[[.]],

wherein said hollow reflector moves along a displacement path to illuminate a scan region of an object that is positioned on a platen.

- Regarding claim 10, please amend the claims as follows:

An illumination system for illuminating a scan region on an object, comprising:

a body having an interior wall defining a generally cylindrically shaped interior reflective surface, the interior wall of said body also defining a generally elongate axial opening therein located at a first radial position on the interior wall of said body;

a light source illuminating a scan region on an object that is positioned on a platen and being positioned within the generally cylindrically shaped interior reflective surface defined by said body;

a first reflector joined to a first side of the elongate axial opening defined by the interior wall of said body; and

a second reflector joined to a second side of the elongate axial opening defined by the interior wall of said body, said first and second reflectors being positioned in non-parallel, spaced-apart relation to one another, said first and second reflectors at least partially collimating light passing through the ~~exit aperture~~ elongate axial opening of said ~~hollow reflector~~ body to form a collimated beam; and

wherein the first and second reflectors form a sharp corner at a junction with the interior reflective surface of the body, and the sharp corner minimizes scattering and improves collimation of the at least partially collimating light passing through the ~~exit aperture~~ elongate axial opening.

- Regarding claim 18, please amend the claims as follows:

An illumination system for illuminating a scan region on an object, comprising:

hollow reflector means for defining an interior reflecting surface and an exit aperture formed through a body of the hollow reflector means;

light source means positioned within said hollow reflector means for producing a plurality of light rays ~~as the light source means moves along a displacement path to illuminate the scan region on the object~~; and

collimating reflector means joined to the exit aperture defined by said hollow reflector means for at least partially collimating light exiting the exit aperture defined by said hollow reflector means to form a collimated beam, wherein the hollow reflector means is integrally formed to comprise both the collimating reflector means and the interior reflecting surface,

wherein said hollow reflector means moves along a displacement path to illuminate a scan region of an object that is positioned on a platen.

REASON FOR ALLOWANCE

2. Claims 1-20 are allowed.

3. The following is an examiner's statement of reasons for allowance. Prior art, whether taken alone or in combination, fails to disclose, teach, or render obvious the following specifically called for combinations:

- An illumination system comprising a hollow reflector having an interior reflective surface and an exit aperture formed in a body of the hollow reflector; a light source within said hollow reflector; a first reflector joined to a first side of the exit aperture; and a second reflector joined to a second side of the exit aperture; said first and second reflectors being positioned in non-parallel, spaced apart relation to one another, wherein the illumination system moves along a displacement path to illuminate a scan region of an object that is positioned on a platen. (claim 1)
- An illumination system for illuminating a scan region on an object, comprising: a first reflector joined to disposed on a first side of the elongate axial opening defined by the interior wall of said a body having an interior wall defining a generally cylindrically shaped interior reflective surface and a light source positioned within said body; and a second reflector joined to disposed on a second side of the elongate axial opening defined by the interior wall of said body, said first and second reflectors being positioned in non-parallel, spaced-apart relation to one another, said first and second reflectors at least partially collimating light passing through the exit aperture of said

hollow reflector to form a collimated beam; and wherein the first and second reflectors form a sharp corner at a junction with the interior reflective surface of the body, and the sharp corner minimizes scattering and improves collimation of the at least partially collimating light passing through the exit aperture. (claim 10)

- An illumination system for illuminating a scan region on an object, comprising: hollow reflector means for defining an interior reflecting surface and an exit aperture formed through a body of the hollow reflector means and a light source means positioned therein for producing a plurality of light rays; and collimating reflector means joined to disposed on the exit aperture defined by said hollow reflector means for at least partially collimating light exiting the exit aperture defined by said hollow reflector means to form a collimated beam, wherein the hollow reflector means is integrally formed to comprise both the collimating reflector means and the interior reflecting surface. (claim 18)
- A method for illuminating a scan region on an object, comprising: integrally forming a hollow reflector having an interior reflecting surface and an exit aperture formed in a body of the hollow reflector with a collimating reflector on at least one side of the exit aperture of the hollow reflector and forming a junction between the collimating reflector and the interior reflecting surface; the collimating reflector at least partially collimating light exiting the exit aperture in the hollow reflector to form a collimated beams and moving the hollow reflector along a displacement path to direct light exiting through the aperture to scan an object that is positioned on a transparent platen. (claim 20)

4. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LEAH S. LOVELL whose telephone number is (571)272-2719. The examiner can normally be reached on Monday through Friday 8 a.m. until 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jong-Suk (James) Lee can be reached on (571) 272-7044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Leah Lovell
Examiner, AU 2885
22 January 2009

/Jong-Suk (James) Lee/
Supervisory Patent Examiner
Art Unit 2885